AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-20 (Cancelled).

21. (New) A composition for the treatment of a subject affected by or susceptible to being affected by a CNS disorder, wherein the composition comprises a population of human cells enriched in human cells that can express human CD34, wherein at least of portion of the cells comprises a nucleic acid of interest, and wherein the composition comprises the human cells in an amount sufficient to migrate to the CNS of a human subject and express the nucleic acid of interest in the CNS of the human subject when intravenously administered to the subject.

22. (New) The composition according to claim 21, wherein cells in the composition are capable of giving rise to microglia in the CNS when administered to the human subject.

23. (New) The composition according to claim 21, wherein the nucleic acid of interest encodes a polypeptide of interest, and wherein the composition comprises hematopoietic progenitor cells or hematopoietic stem cells isolated from cells obtained from the human subject, and wherein the nucleic acid encoding the polypeptide of interest has been introduced into the isolated hematopoietic progenitor cells or hematopoietic stem cells under conditions that result in the expression of the polypeptide of interest at a level that provides a therapeutic effect in the human subject.

24. (New) The composition according to claim 21, wherein the composition contains the human cells in an amount sufficient to reduce the severity of central nervous system damage or symptoms of a central nervous system disorder in the subject.

25. (New) The composition according to claim 23, wherein at least of portion of the cells are recombinant cells comprising the nucleotide sequence encoding the polypeptide operably linked to expression control elements.

26. (New) The composition according to claim 25, wherein the composition contains the human cells in an amount sufficient to reduce the severity of central nervous system damage or symptoms of a central nervous system disorder in the subject.

27. (New) The composition according to claim 21, wherein the administered cells are hematopoietic progenitor or hematopoietic stem cells that can differentiate into microglia cells.

28. (New) The composition according to claim 21, wherein at least 20% of cells in the composition express the CD34+ marker.

29. (New) The composition according to claim 21, wherein the cells are isolated from the human subject.

30. (New) The composition according to claim 22, wherein the cells are recombinant cells comprising a nucleic acid of interest.

31. (New) The composition according to claim 29, wherein at least a portion of the cells are cells that can express CD34 and are transduced with a vector comprising the nucleic acid of interest operably linked to a promotor capable of effecting the expression of the nucleic acid of interest in the cells.

32. (New) The composition according to claim 31, wherein at least a portion of the cells are transduced with a viral vector.

33. (New) The composition according to claim 32, wherein the viral vector is a lentiviral vector.

34. (New) The composition according to claim 23, wherein the hematopoietic progenitor or hematopoietic stem cells express the CD34+ marker or are capable of differentiating into cells expressing the CD34+ marker.

35. (New) The composition according to claim 24, wherein the cells that can express human CD34 are hematopoietic progenitor cells or hematopoietic stem cells.

36. (New) The composition according to claim 21, wherein the nucleic acid of interest encodes a non-secreted or a secreted protein.

37. (New) A method of treating a subject affected by or susceptible to being affected by a CNS disorder, wherein the method comprises administering to the subject a composition comprising a population of human cells enriched in human cells that can express human CD34, wherein at least of portion of the cells comprises a nucleic acid of interest, and wherein the composition is administered to the subject in an amount sufficient to migrate to the CNS of a human subject and express the nucleic acid of

interest in the CNS of the human subject when intravenously administered to the subject.

38. (New) The method as claimed in claim 37, wherein the subject to be treated is pretreated in order to enhance engraftment of the composition comprising the cells.

39. (New) The method as claimed in claim 37, wherein the CNS disorder, which affects or which is susceptible to affect the subject, is characterized by diffuse neurodegeneration.

40. (New) The method as claimed in claim 37, wherein the CNS disorder is Alzheimer's disease.

41. (New) The method as claimed in claim 37, wherein the administered cells are autologous to the subject to be treated.

42. (New) The method as claimed in claim 37, wherein cells in the composition are capable of giving rise to microglia in the CNS when administered to the human subject.

43. (New) The method as claimed in claim 37, wherein the nucleic acid of interest encodes a polypeptide of interest, and wherein the composition comprises hematopoietic progenitor cells or hematopoietic stem cells isolated from cells obtained from the human subject, and wherein the nucleic acid encoding the polypeptide of interest has been introduced into the isolated hematopoietic progenitor cells or hematopoietic stem cells under conditions that result in the expression of the polypeptide of interest at a level that provides a therapeutic effect in the human subject.

44. (New) The method as claimed in claim 27, wherein the composition contains the human cells in an amount sufficient to reduce the severity of central nervous system damage or symptoms of a central nervous system disorder in the subject.

45. (New) The method as claimed in claim 27, wherein at least a portion of the cells are recombinant cells comprising the nucleotide sequence encoding the polypeptide operably linked to expression control elements.

46. (New) The method as claimed in claim 27, wherein the administered cells are hematopoietic progenitor or hematopoietic stem cells that can differentiate into microglia cells.

47. (New) The method as claimed in claim 27, wherein at least 20% of cells in the composition express the CD34+ marker.

48. (New) The method as claimed in claim 27, wherein the cells are isolated from the human subject.

49. (New) The method as claimed in claim 27, wherein at least a portion of the cells are transduced with a viral vector.

50. (New) The method as claimed in claim 49, wherein the viral vector is a lentiviral vector.

51. (New) The method as claimed in claim 27, wherein the nucleic acid encodes a non-secreted or a secreted protein.